$$z^2 = w \ (\ w \in \mathbb{C})$$

$z^2 = w \ (w \in \mathbb{C})$

Start End

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$\forall w$

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$$\forall w \in \mathbb{C},$$

Start End

$$\forall w \in \mathbb{C}, \exists z$$

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$$\forall w \in \mathbb{C}, \exists z \in \mathbb{C}$$

Start End

$$\forall w \in \mathbb{C}, \exists z \in \mathbb{C} \ s.t.$$

Start End

$$\forall w \in \mathbb{C}, \exists z \in \mathbb{C} \; s.t. \; z^2 = w$$

Start End

$$\forall w \in \mathbb{C}, \exists z \in \mathbb{C} \; s.t. \; z^2 = w$$

For every complex number w

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$$\forall w \in \mathbb{C}, \exists z \in \mathbb{C} \ s.t. \ z^2 = w$$

For every complex number w , there exists

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$$\forall w \in \mathbb{C}, \exists z \in \mathbb{C} \; s.t. \; z^2 = w$$

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Start End

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Start End

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For every complex number w , there exists at least one complex number z such that $z^2 = w$.

Start End

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Let

Start End

$$\forall w \in \mathbb{C}, \exists z \in \mathbb{C}\ s.t.\ z^2 = w$$

For every complex number w , there exists at least one complex number z such that $z^2 = w$.

Let $z = a + bi$,

Start End

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For every complex number w , there exists at least one complex number z such that $z^2 = w$.

Let $z = a + bi$, $w = c + di$

▸ Start ▸ End

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For every complex number w , there exists at least one complex number z such that $z^2 = w$.

Let $z = a + bi, w = c + di \ (a, b, c, d \in \mathbb{R})$

▸ Start ▸ End

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For every complex number w , there exists at least one complex number z such that $z^2 = w$.

Let $z = a + bi$, $w = c + di$ $(a, b, c, d \in \mathbb{R})$

$$(a+bi)^2 = c + di$$

Start End

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For every complex number w , there exists at least one complex number z such that $z^2 = w$.

Let $z = a + bi, \, w = c + di \; (a, b, c, d \in \mathbb{R})$

$$\begin{aligned} (a + bi)^2 &= c + di \\ a^2 - b^2 + 2abi &= c + di \end{aligned}$$

▸ Start ▸ End

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$$\begin{aligned} (a + bi)^2 &= c + di \\ a^2 - b^2 + 2abi &= c + di \end{aligned} \quad \begin{cases} a^2 - b^2 = c \\ \end{cases}$$

▸ Start ▸ End

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▸ Start ▸ End

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Start End

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▸ Start ▸ End

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Start End

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Start End

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$$\begin{cases} a = \pm\sqrt{\dfrac{c + \sqrt{c^2 + d^2}}{2}} \\ \end{cases}$$

▸ Start ▸ End

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Start End

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Start End

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▸ Start ▸ End

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Github:
https://min7014.github.io/math20210128001.html

Click or paste URL into the URL search bar, and you can see a picture moving.